What is claimed is:

1. An epitaxial substrate for compound semiconductor light-emitting device comprising:

a double-hetero light-emitting layer structure including a pn junction; and

a p-type layer side layer structure formed in contact with the light-emitting layer structure including in order from the layer in contact with the light-emitting layer structure an n-type first layer represented by $In_xAl_yGa_zN$ ($x + y + z = 1$, $0 \leq x \leq 1$, $0 \leq y \leq 1$, $0 \leq z \leq 1$), a p-type second layer represented by $In_uAl_vGa_wN$ ($u + v + w = 1$, $0 \leq u \leq 1$, $0 \leq v \leq 1$, $0 \leq w \leq 1$) and a p-type third layer represented by $In_pAl_qGa_rN$ ($p + q + r = 1$, $0 \leq p \leq 1$, $0 \leq q \leq 1$, $0 \leq r \leq 1$), each of the three layers being formed in contact with its neighbor.

2. An epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 1, wherein a thickness d_1 (Å) of the first layer is in the range of $5 \leq d_1 \leq 200$ and a thickness d_2 (Å) of the second layer is in the range of $5 \leq d_2 \leq 30{,}000$.

3. A method for producing an epitaxial substrate for compound semiconductor light-emitting device of claim 1, characterized in that a growth temperature T_1 of the first layer and a growth temperature of T_2 of the second layer are made to satisfy the relationship $T_1 \leq T_2$.

4. A method for producing an epitaxial substrate for compound semiconductor light-emitting device of claim 2, characterized in that a growth temperature T_1 of the first layer and a growth temperature of T_2 of the second layer are made to satisfy the relationship $T_1 \leq T_2$.

5. A method for producing an epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 3 or 4, wherein the second layer is grown to satisfy the relationships:

$$5 \leq d_2 \leq 30{,}000 \qquad (900 \leq T_2 \leq 1{,}150)$$

$$T_2 \geq 0.4\, d_2 + 700 \qquad (700 \leq T_2 < 900),$$

where T_2 (°C) is the growth temperature of the second layer and d_2 (Å) is the thickness of the second layer.

6. A method for producing an epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 3 or 4, wherein the second layer and the third layer are grown by a regrowth method after growth of the first layer.

7. A method for producing an epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 5, wherein the second layer and the third layer are grown by a regrowth method after growth of the first layer.

8. A light-emitting device utilizing an epitaxial substrate for compound semiconductor light-emitting device of claim 1 or claim 2.

9. A light-emitting device utilizing the production method of claim 3, 4, 5 or 6.

10. An epitaxial substrate for compound semiconductor light-emitting

device comprising:

a double-hetero light-emitting layer structure including a pn junction; and a p-type layer side layer structure formed in contact with the light-emitting layer structure including in order from the layer in contact with the light-emitting layer structure an n-type first layer represented by $In_xAl_yGa_zN$ ($x + y + z = 1$, $0 \leq x \leq 1$, $0 \leq y \leq 1$, $0 \leq z \leq 1$), an n-type second layer represented by $In_uAl_vGa_wN$ ($u + v + w = 1$, $0 \leq u \leq 1$, $0 \leq v \leq 1$, $0 \leq w \leq 1$) and a p-type third layer represented by $In_pAl_qGa_rN$ ($p + q + r = 1$, $0 \leq p \leq 1$, $0 \leq q \leq 1$, $0 \leq r \leq 1$), each of the three layers being formed in contact with its neighbor.

11. An epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 10, wherein the p-type dopant density of the second layer is not less than 1×10^{17} cm^{-3} and not greater than 1×10^{21} cm^{-3}, and the n-type carrier density of the second layer is not greater than 1×10^{19} cm^{-3}.

12. An epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 10, wherein a thickness d_1 (Å) of the first layer is in the range of $5 \leq d_1 \leq 200$ and a thickness d_2 (Å) of the second layer is in the range of $5 \leq d_2 \leq 500$.

13. An epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 11, wherein a thickness d_1 (Å) of the first layer is in the range of $5 \leq d_1 \leq 200$ and a thickness d_2 (Å) of the second layer is in the range of $5 \leq d_2 \leq 500$.

14. A method for producing an epitaxial substrate for compound

semiconductor light-emitting device of claim 10, 11, 12 or 13, characterized in that a growth temperature T_1 of the first layer and a growth temperature of T_2 of the second layer are made to satisfy the relationship $T_1 \leq T_2$.

15. A method for producing an epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 14, wherein the second layer is grown to satisfy the relationships:

$$T_2 \geq 0.4\, d_2 + 700 \qquad (5 \leq d_2 \leq 500)$$

$$1{,}150 \geq T_2 \geq 700,$$

where T_2 (°C) is the growth temperature of the second layer and d_2 (Å) is the thickness of the second layer.

16. A method for producing an epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 14, wherein the second layer and the third layer are grown by a regrowth method after growth of the first layer.

17. A method for producing an epitaxial substrate for compound semiconductor light-emitting device as claimed in claim 15, wherein the second layer and the third layer are grown by a regrowth method after growth of the first layer.

18. A light-emitting device utilizing an epitaxial substrate for compound semiconductor light-emitting device of claim 10, 11, 12 or claim 13.

19. A light-emitting device utilizing the production method of claim 14,

15, 16 or claim 17.